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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Ronnie L. Thomas

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EXAMINER

ADMASU, ATNAF S

ART UNIT

PAPER NUMBER

1796

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/533,821	THOMAS, RONNIE L.	
	<b>Examiner</b>	<b>Art Unit</b>	
	ATNAF ADMASU	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,7,8,10 and 16-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,7,8,10 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 March 2005 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                      |                                                                   |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____                                                          | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Applicant's reply filed 31 October 2008 has been fully considered. Claim 1, 8, 16 and 17 are amended, and claims 1, 7, 8, 10 and 16 - 18 are pending. Claims 2 – 6, 9, 11 – 15 and 19 – 22 are cancelled.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 17, the inclusion of a term within parentheses renders the claim indefinite because it is unclear whether the included term is part of the claimed invention.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 7, 8, 10 and 16 - 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Frenier (US 6436880).

Regarding claim 1, the present invention claims that a well treatment fluid composition, comprising: water and a chelant in particulate form or a salt thereof. This corresponds to the teaching of Frenier where a well treatment fluid comprises a chelant selected from the group consisting of: ethylenediaminetetraacetic acid (EDTA), hydroxyethylethylenediaminetetracetic acid (HEDTA), hydroxyethyliminodiacetic acid (HEIDA), diethylenetriaminepentaacetic acid (DTPA), 1,2-cyclohexanediarninetetraacetic acid (CDTA). Frenier teaches that the chelant is hydroxyethyliminodiacetic acid (HEIDA) or hydroxyethylethylenediaminetriacetic acid (HEDTA) a free acid, a sodium salt, a potassium salt, or an ammonium salt (see claim 1 and 3). The chelant concentration, as calculated, may ranges from 0.02 mole/liter to 0.35 mole/liter (col. 6, line 41). The prior arts concentration overlaps with that of the present invention.

Regarding claim 7, the present invention claims the fluid further comprises a corrosion inhibitor wherein the corrosion inhibitor comprises a quaternary ammonium compound and at least one of an unsaturated oxygen compound or a reduced sulfur compound. Frenier teaches the corrosion inhibitor comprises a quaternary ammonium compound and at least one of an unsaturated oxygen compound or a reduced sulfur compound (see claim 7).

Regarding claim 8, the present invention claims the fluid further comprises an additive selected from the group consisting of a gelling agent, a wetting agent, an

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emulsifier, an agent preventing the formation of an emulsion, a solvent, a pH adjustment chemical, an inorganic fluoride salt, a diverting agent, a fluid loss additive, a chemical retarder, and mixtures thereof. Frenier teaches comprising an additive selected from a wetting agent, an emulsifier, an agent preventing the formation of an emulsion, a solvent, or a mixture thereof (see claim 8).

Regarding claim 10, the present invention claims that a well treatment fluid composition, comprising: water and a chelant in particulate form or a salt thereof. This corresponds to the teaching of Frenier where a well treatment fluid comprises a chelant selected from the group consisting of: ethylenediaminetetraacetic acid (EDTA), hydroxyethylethylenediaminetetracetic acid (HEDTA), hydroxyethyliminodiacetic acid (HEIDA), diethylenetriaminepentaacetic acid (DTPA), 1,2-cyclohexanediaminetetraacetic acid (CDTA). Frenier teaches that the chelant is hydroxyethyliminodiacetic acid (HEIDA) or hydroxyethylethylenediaminetriacetic acid (HEDTA) a free acid, a sodium salt, a potassium salt, or an ammonium salt (see claim 1 and 3). The chelant concentration, as calculated, ranges from 0.02 mole/liter to 0.35 mole/liter (see page 2, column 1, paragraph [0015]. The prior arts concentration overlaps with that of the present invention. Frenier teaches that the pH of the fluid in solutions containing 20% Na<sub>3</sub>HEDTA and 13% Na<sub>2</sub>HEIDA are 2.5 which is within the instant application's pH range of 0 to 2.9 (see Table 3). The formation is at a temperature from about 100 degree F to about 350 degree F (see claim 39). The injecting is performed at a pressure from about 14 psi to about 10,000 psi (see claim

29). Frenier further discloses the composition can also include viscosity modifying agents emulsifiers and non-emulsifiers (col. 5, lines 56 - 61).

Regarding claim 16, the present invention claims the method of treating the subterranean formation where the fluid contains additive selected from a corrosion inhibitor, gelling agent, wetting agent, an emulsifier, an agent preventing the formation of an emulsion, a solvent, a pH adjustment chemical, an inorganic fluoride salt, a diverting agent, a fluid loss additive, a chemical retarder. Frenier teaches the composition further comprises an additive selected from a wetting agent, an emulsifier, an agent preventing the formation of an emulsion, a solvent, or a mixture thereof (see claim 16).

Regarding claim 17 and 18, the present invention claims the method of treating the subterranean formation wherein the fluid is injected below a pressure to exceed the minimum horizontal stress (the fracturing pressure). Frenier teaches injecting chemicals through the wellbore and into the formation at pressure sufficient to fracture the formation (see column 1, line 40-54).

### ***Response to Amendment and Argument***

6. Applicant's amendment and arguments, filed 31 October 2008, has been entered and fully considered.

7. Applicant's amendment of claim 1 by further limiting the chelants' concentration pH of the composition from about 0 to about 2.9 has been fully considered and

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overcomes the following: The rejection of claim 1 under 35 U.S.C. 102(b) has been withdrawn.

8. With respect to rejections of claims 1, 7, 8, 10 and 16 – 18 under 35 U.S.C. 102(e) as being anticipated by US Patent 6,436,880 (Frenier), applicant presents that there is no teaching in Frenier that the chelant must be in the form of a particulate nor there is any disclosure of using gelled, ungelled or emulsified hydrochloric acid. The examiner disagrees.

Frenier teaches the well treatment fluid has acid selected from HCl, acetic and formic acid (claim 2). The pH of the fluid can be 2.5 (see Table 3) and Frenier further discloses that EDTA has relatively low solubility in acidic fluid (e.g., pH<4) (col. 3, lines 52 – 53), implying the chelant is in a particulate form. The composition can also include viscosity modifying agents, emulsifiers and non-emulsifiers (col. 5, lines 56 - 61).

### ***Conclusion***

9. Constien (US 6,394,185) and Lagnemo (US 5,846,922) are cited as an X-reference on the international search report for PCT/US03/36906, from which the instant application claims priority.

Constien teaches a water based drill-in fluid containing 3g EDTA and 0.6g HEDTA designed to dissolve calcium carbonate particles. The preferred physical states of the chelants are solids. However, it fails to disclose the pH of the composition is from 0 to 2.9.

Lagnemo teaches an aqueous solution containing a chelating agent selected from alkali metal salts of a hydroxyl carboxylic acid and the preparation and use of the particles. However, it fails to disclose the pH of the composition is from 0 to 2.9.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ATNAF ADMASU whose telephone number is (571)270-5465. The examiner can normally be reached on M-F 8:00-5:30, Flexible Schedule.



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ASA/

/Timothy J. Kugel/  
Primary Examiner, Art Unit 1796